THE INRICHMENT Of the Weald of KENT.

OR

A Direction to the Husband-man, for the true Ordering, Manuring, and inriching of all the Grounds within the Wealds of *Kent*, and *Sussex*; and may generally serve for all the Grounds in England of that nature: As,

1. *Shewing the nature of Wealdish Grounds, comparing it with the soyl of the Shires at large.*
2. *Declaring what the Marl is, and the severall sorts thereof, and where it is usually found.*
3. *The profitable use of Marl, and other rich manuring, as well in each sort of Arable Land, as also for the increase of Corn and Pasture through the Kingdome.*

Painefully gathered for the good of this Iland, by a man of great Eminence and Worth, but revised, inlarged, and corrected with the consent, and by conference with the first Author.

By *G. M.*

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TO THE HONOURABLE Knight, Sir GEORGE RIVERS of Chafford, in the Countie of KENT.

SIR,

HAd I no Scale (more than this bare and plaine moulded Epſtle,) by which to come to your worthy eares, yet in reſpect of the honeſt livery which it carries, (being neceſſary and husbandly Collections, eſpecially gathered for the Country and Soyle wherin you live) I know it cannot chuſe but find both favour and mercy in your acceptation; but when I call into my conſideration the great worthineſſe of your expence in this and all other the like affairs, which tend to the generall benefit of the Common-wealth, and weigh the Excellency of your Wiſedome, Judgment, Bounty, and Affection unto Hoſpitality (which giveth both ſtrength and advancement to projects of this nature) I could not but take unto my ſelfe a double incouragement, and boldly ſay unto this Worke which I offer unto your goodneſſe, Goe and approach with all thy ſweetneſſe before him, he that ſo perfectly knowes all which thou canſt or wouldeſt diſcover; he that is able both to correct and amend

mend any thing that is imperfect in thee, hee, for vertues sake, will never forsake thee. Beleeve me (worthy Sir) should this Subject wish it self a Patron, I doe not think it could wish beyond you; for you are a volume full of all that of which it intreateth: witnesse your yeares, your supportation of the poor, and your continuall imployments; with any of which there is not (of your ranke) a second living in your Country, to walk hand in hand with you. Beeing then (dear Sir) the oldest and best friend to your Country, forsake neither, nor this which comes to serve it; and though in this Glasse some lineaments may appear imperfect, yet by the help of your favour (though little be exact, or most excellent) nothing shall be gross or unworthy the survey of your worthier patience. And so I rest,

Yours to be commanded.

Gervase Markham.

A Discourse of the Weald of Kent; *and a comparison of Arable lands therein, with the other parts of the Shires. Together with some necessary counsels for the ordering and inriching of the marleable Lands in the Weald, as generally in any part of this Kingdome.*

THe Weald of *Kent* is the lower part of that Shire, lying on the South side thereof, and adjoyneth to the Weald of *Sussex*, to the West. Further Additions.

This Weald, both in *Kent* & *Sussex*, was sometimes all (or the most part) woody, Wild, and (in the first times) un-inhabited, and from thence took the name of Weald from the *Saxon* word, *Weale*, or *Teale*, or *Weald*, which signifieth a Woody Countrey, or Forrest-like ground. The *Britans* called it *Andred*, which signifieth Greatnesse or Wonderfull: and in Latine it was called *Saltus Andred*, (that is to say) the Chase or Forrest of *Andred*, by reason of the great circuit, or large bounds thereof.

Touching the true boundary or limits of this Weald, there have been divers opinions, and most of them various, and much differing both in place and quantity, but that which is the neerest & best allied unto truth, both according to the opinions of *Asserius Menevensis*, *Henry of Huntingdon*, and others of most credible report, is, that it extendeth from the city of *Winchelsey* in *Sussex* an hundred and twenty miles in length towards the West; and thirty miles in breadth towards the North. Now although this report be most agreeing unto veritie, yet who knowes not that curiosity may raise up many objections to withstand it; and therefore M. *Lambert* in his Perambulation of *Kent*, hath prescribed the best and most infallible way to find out the true and

certain bounds of this Weald, to be only by Jury, or the Verdict of twelve men impannelled for that purpoſe, either in caſe of controverſie, or other particular ſearch; and this hath been in theſe latter times brought forth moſt plentifully: for it hath been found by diverſe late Verdicts, upon ſpeciall and moſt neceſſary occaſions, that the Weald of *Kent* is truly M. *Lamberts* ſecond ſtep in his Perambulation of *Kent*, reaching from *Winchelſey* in *Suſſex*, and that hill there, unto the top of *Rivers* hill in *Kent*; and neither farther towards *London*, nor ſhorter towards *Tunbridge*; which agreeth ſo perfectly with the former limitations, that both may be received as moſt true and ſufficient.

This Weald was for many yeares held to be a wild Deſert, or moſt unfruitfull Wilderneſſe (as write the authors before mentioned) and indeed ſuch is the nature and diſpoſition of the ſoyl thereof to this very day: for it will grow to frith or wood, if it be not continually manured and laboured with the plough and kept under by tillage; ſo as it may truly be ſaid of it, *Inculta reparantur vomere Sylva*. It is throughout (except in very few places adjoyning to brooks or rivers) of a very barren nature, and unapt either for paſturage or tillage, untill that it be holpen by ſome manner of comfort, as dung, marle, freſh earth, fodder, aſhes, or ſuch other refreſhings; and that ſeemeth to have been the cauſe for which in old time it was uſed as a wilderneſs, and kept for the moſt part with herds of Deer, and droves of Hogs, as is ſpecified in divers hiſtoricall relations.

And as there be yet remaining in *Suſſex* divers great forreſts and ſundry commons or waſts, having five or ſix miles in length, which for the moſt part are not fit to be manured for corn, and yield but little profit in paſture: ſo have there been alſo in *Kent* (within our memory) a great number of woody and over-grown grounds, converted of late, even after ſuch a manner as in the ſaid Perambulation is teſtified: where it is ſaid; That although the Weald of *Kent* belonged to ſundry known owners long ſince, yet was it not then allotted into particular Tenancies, as the other parts of the ſhire were, but it was, in proceſſe of time, by little and little gained, as men were contented to inhabit there, and to rid it of the wood. And hereof it is alſo, that beſides ſundry whole pariſhes which

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be named dens or low places, as *Tenderden*, *Malden*, *Beneden*, and ſundry other, there be moreover many ſmaller portions almoſt in every part of the Weald of *Kent*, which he likewiſe called dens; as the den of *Cranebrook* in *Cranebrook*, the den of *Hawkhurſt* in *Hawkhurſt*, and ſuch others; the which (as it ſeemeth) were at the firſt undertaken to be manured by ſundry particular perſons, whoſe names were then taken for thoſe very dennes and continued many yeares together, as by antient evidences it doth yet appear; howſoever the age of long time hath now almoſt worn & conſumed them all out of knowledge. Neither doth the Weald of *Kent* contain ſo many great mannors or courts (for the proportion of the largeneſſe) as the reſt of the Shire doth, but was appertaining, for a great part thereof, to ſundry of thoſe mannors which do lye at large diſperſed thorow the Shire, whereof each one had a great portion in the Weald, which both in the book of Dooms-day, and in ſundry the court-Rolls, and Rentals, paſſeth by the name of Weald, and *Silva Porcorum*, or ſwine gats, which were granted to divers of the farmers and owners of ſundry tenancies which did belong unto thoſe dens and other lands within the Weald.

And albeit theſe dennes be for the moſt part good large portions of lands, that be now broken into many ſeverall poſſeſſions, ſo as the ſame one Denne ſufficeth twenty houſholders at this day, yet it is very likely that each man at the firſt had his ſeverall denne wholly and unbroken, whereof he and his poſterity beareth name, untill that the ſame was by the cuſtome of *Gavelkind*, by ſale or by exchange divided and diſtributed amongſt others into parts, as we doe now ſee them. But howſoever this Weald be of it ſelf unfruitfull (as I ſaid) and of a barren nature, yet ſo it hath pleaſed the providence of the Almighty to temper the ſame, that by the benefit of Margle or Marle (as it is commonly called) it may be made not onely equall in fertility with the other grounds of the ſhire, as well for Corn as Graſſe, but alſo ſuperiour to the more and greater part of the ſame. The which manner of bettering the ground is not now newly diſcovered, but was the anclent practiſe of our forefathers many yeares agoe, as by the innumerable Marle-pits digged and ſpent ſo many yeares paſt, the trees of 200, or 300 yeares

The uſe of Marle is ancient.

years old, doe now grow upon them, it may moſt evidently appear; beſides the which we have mention of Marle in books of gainage or husbandry, that were written in the dayes of K. *Edward* the 2. or before, howbeit the ſame manner of tillage, by meanes of the civill warrs, maintained many yeares as well in the time of the Barons warrs, as of the warrs between the houſe of *York*, and the family of *Lancaſter*, was ſo given over, and gone out of uſe, untill theſe thirty or forty yeares, that it may be ſaid to have been then newly born and revived, rather than reſtored, becauſe the very true art of inriching the ground by Marle, ſeemeth to lye hidden in part, as yet not to be diſcovered to the full: for in this ſhort time we have ſeen many arable grounds, which for ſundry yeares after the marling of them, have plentifully born Wheat and other grain, to be now become unfruitfull, and ſo will they continue, albeit they ſhould be now marled again. And this commeth to paſſe by the ignorance of the right manner of ordering the Marle, which is as ſtrong and cheerfull as ever it was before, howſoever it worketh not this naturall effect, through the unskilfulneſſe of the Husbandman, that both waſteth the Marle, and loſeth withall his time, his labour, his coſt, and the profit of his ground. I cannot deny but a man ſhall ſee ſome grounds of nature fit to take Marle, and of ſituation ſo neere to Marl-pits long time opened, that they might be marled plentifully with little charge, and have been heretofore marled indeed, and yet the ſame to lye now unplowed, and not only barren of themſelves, but alſo unapt for marle, and uncapable of amendment by Tillage: but I muſt ſay withall, that albeit the men in thoſe former ages had the right ordering of marle, yet were they not all good Husbands alike, neither doth the Field joy alike under the Farmer, and under the very Owner of the ſame, theone ſeeking the very uttermoſt gaine that may be made during his ſhort intereſt, and the other indeavouring to perpetuate his commodity, even to the end of his eſtate, which hath no end at all: ſo that through unskilfulneſſe of the one, and greedineſſe in others, the ground may ſooner be crammed to death with Marle, then it ſhall be made the better or fatter by it. The reaſon whereof I will reſerve untill that I have cauſe to teach in particular after what man-

Marling was diſcontinued and is now revived.

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ner & meaſure the ground is to be marled. In the mean while I wil open the nature and conditions of this Wealdiſh ground, comparing it with the Soyl of the ſhire at large, and afterward declare unto you what the Marl is, and what ſorts thereof there be uſually found in the Weald of *Kent*, and laſtly enter into the true and profitable uſe thereof, as well in each ſort of arable Land, as alſo for the increaſe of Corne and Paſture through the Kingdome.

The arable ground of this Weald hath commonly a fleet and ſhallow mould to be turned up by the Plough, ſo as in many places the dead earth or mould is within three inches of the face of the ground, and in the beſt places, the good Mould exceedeth not ſix inches in depth at the moſt; and therefore it wanteth convenient ſubſtance to nouriſh Corne any long time, but will faint and give over after a crop or two; for the which reaſon alſo, it cannot yield any ſweet or deep graſs. Beſides this, the Weald hath many copped or hilliſh grounds, out of which there doe many *Quits* or Springs of water iſſue, that make it cold and barren; and from theſe hillocks, the beſt part of the good Mould is waſhed downe into the Water-courſes and Dykes that be made to divide and drain the Land. Furthermore the Weald is divided into many ſmall incloſures, the biggeſt ſort (for the moſt part) of which, are between ſixteene Acres and twelve in quantity, and thereby hath it many Hedges and Trees, which in unſeaſonable weather doe keep both the Sunne and wind from the Corne, ſo as for want of that ſuccour and comfort, it groweth, and many times rotteth in the earth, ſo that it carneth not, nor eareth, nor proſpereth not kindly many times. And theſe ſmall Cloſes are cauſed by this, that, men are not able to Marle any great part or quantity of ground at once; and having marled a little, they are deſirous to ſow it with Corne: for the preſervation whereof, as alſo for draining it, they are inforced to make ſo many and ſmall ſeveralls: for all which reaſons it is plaine, that there is little good arable Land there, and rarely any good Paſture, thoſe onely places excepted, which are amended by irrigations of floods, which there is called flowing and overflowing. Contrarywiſe, the arable land of the Shire at large, hath a deep and fat Mould of good earth, that is

able to bear five or six good Crops together without intermission; and after 3. or 4. years rest, will do the like againe, and may so interchangeably keep that course for ever: yea, there be many grounds that are sowed without ceasing, because the Mould is so deep, that when the upper part thereof beginneth to faint and be weary, men can adde some strength of Cattell, and with the Plough go deeper, and fetch up a fresh Mould that will continue for a long season. Furthermore this arable ground is a hollow dry ground, for the most part, on a deed Clay, that by tillage, and the weather, will become dry and spongy, so as the Rain there washeth in the fat of the earth, the rather because it is not so hillish and sliding as the Weald, but more levell, eaven, and champion also, by which the Sunne and Wind doe dry the corn, and doe make it carn or eare well, and yeeld a purer flowre then that which is sobbed in wet, and hath long time lyen before it be dryed againe. But for as much as the great odds betweene these two sorts of grounds, may be made eeven by the help of *Marl*, if it be rightly ordered, as I said, I will not shew you what it is, and how many sorts thereof be found in this Weald of our Country. *Marl* is indeed, as it is in name, the fat or (marrow) of the earth: for so did the *Germans*, and so did our elders the *Saxons* terme it, of the word *Marize* which we sound *Marrow*, and thereof we call it *marling* when we bestow that fat earth upon our lean ground. *Pliny* saith, that the *Brittains* (meaning us) did use to amend their Land with a certaine invention which they called *marga*, that is, the fat of the earth, and it is to be seen in *Conradus Heresbachis*, that the *Germans* doe use it to the same end, and doe call it by the same name till this very day: it is therefore a fat, oyly and unctuous ground, lying in the belly of the earth, which is of a warm and moyst temperature, and so most fertill; seeing that heat and moisture be the father and mother of generation and growth; howbeit this is not a pure and simple marrow (as that is which lyeth in our bones) but a juyce, or fat liquor mingled with the earth; as is the fat which lyeth mixed, and dispersed in our flesh, so as the one may be drawn away, and the other remain as it shall anon appear unto you.

Four sorts of Marle.

Four sorts of *Marle* be found in this Weald, known asunder

der by the difference of colours, and thereby alſo differing in degrees of goodneſſe one from the other: for there is a gray, a blew, a yellow, and red Marle, all which be profitable, if they be earthy and fat, or ſlippery as ſoape: and moſt times little worth, if they be mixed with ſand, gravell, or ſtone. So the blew is reputed the beſt, the yellow the next, the gray the next, and the red leſſe durable then the other three; and yet it is thought the red to be the better, if it be found upon the blew, or others. Theſe Marles doe lye in veines or flowres, amongſt thoſe hillocks or copped grounds moſt commonly whereof I have ſpoken, and doe oftentimes ſhew themſelves at the foot of the hill, or about the mid way, between the foot and the top thereof: ſome of them have over them a cover of ground, which we call Cope, not exceeding ſeven or eight foot in depth, ſome lye deeper, and other ſome doe ariſe, as namely, where the ground lyeth not high, and that Marle commonly is very good; and there is in diverſe levell grounds good Marle. 1. 2. 3. 4.

And as Marle is for the moſt part of theſe foure colours, ſo is arable ground for the moſt part of theſe foure ſort following; that is to ſay, either a cold, ſtiffe and wet clay which is either the Cope of the Marle, or lyeth neere unto it and is therefore commonly called, *The Marle Cope ground* or a Hazell Mould, which I count to be one of the beſt wealdiſh Moulds, being a compound Mould, and very good for Marle, and will quit the coſt very well. Then there are two ſorts of ſandy Mould, the one being a reaſonable good kind, but not equall to the hazel Mould, for you ſhall have in divers places of the weald this hazel mould to bear two or three good crops of Wheat, being Summer fallowed, together, which you ſhall hardly have of any ſandy ground without mending: but as I ſaid of the better ſort of theſe two kinds of ſandy moulds, you have commonly very rich Wheat, being well Marled, which is not ſo barren as the other; but this laſt kind of ſandy Mould is a very barren kind of ground, and hath a very fleet Mould, and you ſhall have very heath grow upon it in divers places, and yet being ordered, as followeth, with Marle, will bear both good Corn Four ſorts of Grounds. 1. 2. 3. 4.

and Paſture. And now that wee may the better underſtand how to Marl and Manure every of theſe ſorts by it ſelf, you muſt know, that the hazell ground being dry, and not ſubject to Winter-ſprings, or tears of water (for which, ſome call ſuch, A whining or weeping ground) is to be handled thus.

The ordering of the Hazell-Mould.

Firſt, Plough it as deep as you can, with the ſtrength of eight beaſts at the leaſt; and be not afraid to Plough up ſome part of the dead earth that lyeth under the upper good Mould: for the Sun, the Raine, the Wind, and the Froſt, will in time mellow and amend it; and beſides that, the Mould will bee the deeper for a long time after, and thereby keepe it ſelfe the longer from being ſtiffened with the Marle. Then you may beſtow 500. Cart-loads (as we call them) of Marle upon each acre thereof, every load containing 10. or 12. buſhels of eight gallons, and each acre containing 160. rods of 16. foot and a half to a rod. Then alſo you may chuſe whether at the firſt breaking up you will ſow it with Oates, to kill the graſſe, or elſe firſt Marle it, and ſow it with Wheat, or otherwiſe Summer-fallow it in the *May* after the Oates, and then Marle it, and ſow it with Wheat. Upon that fallow or gratten (as we call it) you ſhall doe well to ſow it with Peaſe, and at *Michaelmas* following, to ſow that Peaſe-ſtubble or gratten with Wheat againe. which alſo will be the better, if the Summer wherein it carried Peaſe, were moyſt; becauſe the Peaſe being rich and thick, doe deſtroy the Graſſe, that together with the waſhing of the fallowes by raine, doth greatly conſume the heart and vertue; or, as we call it, the ſtate of the ground. But if that Summer were dry, then is a fallow beſt, becauſe the Sunne with his heat doth much good to the ground, and inableth it the better to beare out the weather in the Wheat ſeaſon enſuing. If you like to ſow it, as I ſaid, with Peaſe, ſow them as earely and timely as you may, for they will be ſo much the ſooner harveſted, and then alſo you may Plough or ſtirre your gratten the ſooner, whereby it will be the better hardned to bear out the weather in the time of ſowing of your wheat: but I doubt, Peaſe doth ſomewhat ſtiffen it. Two buſhels of Wheat doe ſuffice for the ſowing of an acre hereof, except it be for the firſt crop, after the

the new breaking up of the ground; during which time, there is found a worme, called an *Emble*, which in *French* ſignifieth Corn in the ground, being of colour yellow, and of an inch in length, and will eat ſome part of the Corn; but if you ſow it thick, it will be both ſmall eared, and thick, and ſlender of ſtraw, which the rain and wind will beate and hurle downe, and then it will ſcarcely riſe againe; or if it doe, yet through the neerneſſe of the ſhadow of the trees and hedges, that in ſo ſmall cloſes be many, it will rather rot for want of drying, then come to maturity, that is, to perfect hard, and full grown Corn. After your firſt Marling, you muſt carefully fore-ſee, that you plough not the ground either with deep or broad Furrowes, but fleet and narrow, leſt you caſt your Marl into the dead Mould, for Marl differeth much from Dung in this behalfe; Dung ſpendeth it ſelfe upward, and howſoever deep it lye, the vertue thereof will aſcend: but Marle(as ſaith Sir *Walter Henly*, in his Husbandry)ſendeth his vertue downeward, and muſt therefore be kept aloft, and may not be buried in any wiſe. Furthermore, if your ground be hilliſh or coppied, it ſhall be fit that you make your Ridges 7. or 8. foot broad at the leaſt; for in ſuch falling lands, the more broad Furrowes you make, as you muſt make many, where you make Ridges, the more of your Marle ſhall be waſhed and carried into the bottoms. It is good alſo to draw a croſſe or quarter-Furrow, and opening the ends of your land Furrowes ſtopped, into it, to leave the other ends of your Furrowes that the water-ſhoot runne not all the length of the field. Againe, this ground will alwaies be ſown under furrow, and that alſo before *Michaelmas*, if the ſeaſon will ſo permit: for this ground(if it be well husbanded)will be mellow and and hollow, or looſe, whereby through Raine and Froſt, it would ſinke downe from the root of the Wheat, if it ſhould be ſown above Furrow, the which being uncovered, muſt needs be bitten and killed with the cold. It is alſo very fit that you harrow not this ſort of ground too ſmall, but that you leave the clods as big as a bowl, the which being mouldred with ſnow and the froſt, will both cover and keep warme what is under-

neath. Moreover, it ſhall be good, that upon ſome fair and dry day, in the beginning of *March*, you put your flock of Sheep into your Wheat, that with their trampling upon it, the Corn may be well, and faſt cloſed with the earth, yea, and preſently after (if it will bear foot) you may roll it as you doe Barley, whereby both the Clods ſhall be broken, and the Gratten or ſtubble ſhall be more even and ready for the Mower. Generally you muſt underſtand, that after you have beſtowed your *Marle* in the field, you ought to let it lye unſpread abroad, untill you be ready to plough, and then immediately after the ſpreading of it, turne it into the ground with the Plough; for otherwiſe, if it ſhould lye long ſpread in the field, the Sunne will ſpend no ſmall part of the fatneſſe thereof, although I know many deſire it, becauſe it will be the ſmaller being burned with the Sunne; which I like not. And therefore alſo no good Husband will carry and ſpend his dung in the time of Summer, except he doe preſently withall plough it into the ground; for although the Mould of the arable Land it ſelf will take good, if it be turned to the Sunne, which will both dry and faſten it, yet the matter fareth far otherwiſe with the *Marle*, from which if the Sunne ſhall draw and ſuck the fat moiſture that maketh the Land fertile, then becommeth it (as *Columella* ſpeaketh of the worſt ſort of ground) *Solum ſiccum, pariter & denſum & macrum, quod ſive execeditur, ſive ceſſat, colono refugiendum eſt.* It becometh (ſaith he) a dry, thick, and lean Clod, which whether it be tilled or laid to reſt, muſt be forſaken of the Husbandman as unprofitable. And now your Hazell mould being thus marled, plowed, ſown, and manured, you may not charge with Wheat above twice, and then it muſt reſt five or ſix yeares together; all which time it will bear a very good and ſweet Paſture, well ſet with a white Clover, or three leaved graſſe, moſt batning and profitable, both for Sheep and Bullocks.

After thoſe years ended, it will grow to ſome Moſſe, or will peradventure caſt up Broom; and then it is time to breake it up, and ſow and handle it as before for two other Wheat-ſeaſons or crops, leaving it a Wheat-gratten or ſtubble, rather than with an Oat gratten or ſtubble, which bur-

burneth the Land being marled. Being thus interchangeably ſowed and reſted, your Hazell mould will continue good arable and paſture, by the ſpace of thirty years together, whereas if it ſhould be continually ſowed, ſix, or ſeven, or more years together without reſt, it will become utterly unfruitfull, both for Corn and Cattell alſo. Neither will it any thing avail to marle it over again when it is ſo decayed, becauſe the former marle having his juice exhauſted by continuall Tillage, whereof the Corn ſucketh one part, and the Sunne, Wind, and Weather dry and waſteth the reſt, is but a dead Clod (as I ſaid) that is not capable of new *Marle* to amend it, nor caſteth any profitable graſs at all. For proof hereof, I my ſelf have ſeen, that the common earth of High-wayes, by treading of Cattell, waſhing of Raine and the drying of the Sunne and weather, lay ſeperated from the naturall juice which it had in the pit, and ſpreading it upon the ground, I ſaw that the land was not only not amended; but much the worſe by it. And now for an end of handling this ſort of Hazell ground; if it ſhall appear unto you that five hundred loads of Marle upon the Acre, have clanged, ſtiffened, and too faſt bound your land (as indeed the nature of *Marl* is to bind and to ſtiffen) then take you ſome of theſe waies to help it: either reſt it four or five years, or fodder upon it before you bring it up with ſo many Cattell as you may; or take the uppermoſt part of your Ditches or Fore-lands, or waſt places of your fields which you may mingle with Dung, and which, before you ſow your Wheat, you may lay upon your fallow and ſtirr it in with your plough; and by this you ſhall both looſen your *Marle*, and refreſh your ground: ſo that within forty years the mould of your ground will clean eat up and ſwallow the *Marle* that you lay upon it; and then become hungry, and is capable of Marle againe as it was before at the firſt.

And by this alſo you may ſee the very cauſe for which it is good not to ſow your marled land continually, but to paſture it by turns, and ſo give it reſt; namely becauſe the continuall plowing doth exhauſt and ſpend the fat of the Marl, leaving the droſſie, dry, and fruitleſs parts thereof, to lye and cover the face of your ground: whereas paſturage through the dunging, trea-

treading, and foddering of Cattell, doth increaſe a new Mould, which mingling it ſelf with the dead Mould, doth in the end give ſome life and heart unto it. And therefore theſe Farmers & Owners that have beene at the coſt to Marle their ground, and will not forbear to till it, but haſtening to raiſe their charge, doe thereby utterly ſtrike it with barrenneſſe, are like to *Æſops* man, who having a Hen that layed him every day a golden Egge, and being greedy to have all the gold at once, did therefore kill the Hen, thinking to have found her belly full of gold, and ſo was both defrauded of that he looked for, and loſt alſo what he had before. Hitherto of the nature, ordering and marling of this hazel ground. Generally now for the continual fallowing and ſtirring thereof, you muſt underſtand, it may neither be fallowed wet, leſt it anſwer more Graſſe than Corne; nor yet ſo dry, that the dead bottom ſwell up, as in great drowth it will, and ſwallow the good Mould that lyeth above: and therefore bind not your ſelfe to any preciſe time of any month, but the opportunity either in *May* or *June*, as you ſhall find the weather to have prepared it for your deſire. In the like temper you ought to ſtir it after a ſhowr, after Saint *James* his day, or in the end of *July*, for ſo will it be dry and hard before the time of ſowing: whereas if it be ſtirred later, every ſmall Raine will diſtemper it into Dirt or Mire, by reaſon of the tenderneſs thereof, and then can you not fitly beſtow your ſeed upon it.

The ordering of the Marle Cope ground.

The Marle Cope ground followeth, which is moſt commonly (as I ſaid) a ſtiffe, wet, cold Clay, and not ſo fit as the former to be marled for Corne, except in ſome few fleete places thereof, but yet it may ſerve for Paſture or for Oates; ſuch of them as be marled, muſt be fallowed fleete or ſhallow, leſt the marle become drowned in the wet: then being marled, they may in dry Summers (and not over-moyſt Countryes) beare Wheate in ſome mediocritie. Three hundred loads at the moſt of Marle are ſufficient for an acre of this kind and two buſhells and a halfe of Wheate will ſow the ſame, which muſt be caſt above furrow, fourteen or twenty dayes before *Michaelmas*. It requireth round, high and narrow Ridges, and that the

the water-furrowes be ſtricken ſomewhat deep, the better to conveigh moiſture from the Corne, and that it be left cloddy as much as may be: and yet to ſay the truth, ſuch as will convert this ſort of ground to Tillage, muſt provide a greater quantity of rich ground or Greet (as we terme it) and Dung, than of Marle it ſelf, to amend this Land withall. But if there be any ground that is light and whining, or weeping, becauſe of Springs that are therein, and therewith doth caſt up Ruſhes, let that be marled upon the greene land with four hundred or five hundred loads upon the acre, about the latter end of Summer; for ſo will the Marle ſinke into it, and caſt up a ſweet graſſe for eight or ten years together, and untill that the Marle be ſunke ſo low, that another ſward or cruſt of earth be grown over it, and then it is fit time to plow it, but yet very fleete and narrow, for ſo will it bear good Oats; but if it be ſo wet that you cannot adventure to ſow your Wheat upon it, becauſe the Ruſhes be not killed with this firſt plowing, then may you ſow it againe with Oates, drawing good water-furrowes to draine it, becauſe it will be the wetter for plowing, and thereby the Marle alſo will the ſooner loſe his force; thus doing, let it lie to paſture again. Ruſhes.

There be ſome other grounds of the Marle-Cope, which carry a ſowre Graſſe, and the Dyers-weed, (commonly called Greening-weed) and having a great tore thereof, the which alſo may be amended by three hundred or four hundred load of *Marle* upon the acre of the green land: for the *Marle* will both rot the tore or veſture thereof, and alſo inrich the Mould very much; ſo as it will anſwer good Paſture twelve years after: and when you ſhall perceive that the *Marl* is well ſunk, then may it be Ploughed fleet and narrow, ſowed with Oats and fallowed; ſo may it both bear good Wheat, if it find a good ſeaſon, and be the richer a long time after partly by the benefit of the *Marl*, partly by the rotting of the tore and ſward, and partly by the dung and water of the Cattell that paſture upon it: for the ſweeter the Paſture is, the more Beaſts it feedeth, and the more beaſts it beareth, the more it ſelf is amended by it. Dyers weed.

Touching the fallowing of this ground, great heed is required: for as it ſwelleth more then the Haſell-ground, if it be taken hard and dry, ſo it is more graſſie then that, or the Sandy Soyl if you fallow it wet: The ſeaſon therefore followeth commonly in *April*, or in the beginning of *May*, for to fallow it, and to ſtirr it about *Midſummer*, or ſo ſoon after as the rain ſhall have prepared it meet for your unſhod Oxen to labour upon it. Many men fearing to hit the right ſeaſon for this ground in the Spring of the year, do make it ready by a winter fallow before *Chriſtmas*, & by ſtirring it before *Midſummer*, if they may; which manner is not to be miſliked.

The ordering of the Sandy moulds.

Laſtly, commeth the two ſorts of Sandy-ground, and gravelly-mould the one being to be ordered much after the hazell mould, ſaving he would have ſomewhat more marle, and alſo would be favoured more in the often tillage, than it: for the haſell mould will bear or endure more than the Sand. But this laſt ſort of ſandy-ground, being a very ſtaring Sand (as wee uſe to call it) for much of it will bear Heath, being of it ſelf very barren and very fleet or ſhallow Mould, and over-hot and dry, and by reaſon of that extremity, is unfertill except it be marled very plentifully. And therefore when you break up this ground, Plough it as deep as you may, not fearing to caſt down the beſt Mould thereof, becauſe the *Marle* will pierce thorow, and ſink down into it. An acre of this ground requireth five hundred or ſix hundred loads of your *Marle* at the leaſt. Sow alwaies under furrow about *Michaelmas* with two buſhels and a half upon the acre, which it will better carry than the Hazell ground: for although the ſtraw be ſmall, yet will it be harder, and ſtand better than that of the other. The worme whereof I ſpake, will be buſie with that, that groweth on this ſort of ground, until that the heat thereof be ſomewhat aſſwaged by the Marl. If your ground be hilly, make your Water furrowes in ſuch ſort, as I have ſaid before, for the ſaving both of your *Marle* and Mould, harrow it very little, leave it as cloddy as you may. After that you have taken a Crop from it, fallow that Wheat Gratten or Stubble in *May*; after that ſtirr it alſo, and then about *Michaelmas* ſow it with Wheat again: for

it

it is not yet rich enough to bear you good Peaſe. This done, let it reſt four or five yeares, and if it ſend up any plenty of broom cut or pul them when they be of ſome mean bigneſs, but plough not the ground untill it have taken ſuch reſt; and after it, you may well break it up of new, and ſow it with Oats: which Oat-gratten or Stubble, you muſt Summer-fallow, when it is at the Harveſt: and then if you deſire to have it in good heart, you muſt Marle it with three hundred or four hundred loads upon the Acre again. After this Crop thus taken, reſt it five or ſix years, and then take one Crop more of Oats from it, and after a Summer-fallow, ſow it with Wheat, and ſuffer it to lye a Wheat Gratten or Stubble, till it ſhall have reſted as before is appointed for the hazell ground; and ſo it will be the better thirty or forty yeares after the marling. Wee have in this Weald a ſandy and gravelly ground that is wet and weeping, the which is ſcarcely worth the Marling, except the nearneſs of the *Marl*, and thereby the ſmall coſt and charge thereof, may intice a man to beſtow the coſt upon it with *Marle*, and then the beſt way is to Marl upon the green Land, or upon a fallow, with 500. loads or more upon the Acre, or rather to take the profit thereof by Paſture then by Tillage: for it will hardly beare good Corn, which is ſoon killed with wet vapour that is continually ſent up from the wet ſprings that lye under it. This ſort of wet ground is to be fallowed, when it is both hard and dry, becauſe it ſwelleth not as doth the Haſell Mould, and may therefore be taken in *June*, if former fair weather bring it not to a dry ſeaſon; and it is to be ſtirred alſo after a ſhowr, in the like plight as the hazell-Mould before. Your marleable grounds being ordered in this wiſe, ſeverally ſet down for each kind of them, will continually ſtand fruitfull either for corn or paſture, and allbeit the high prices which Corn hath of late yeares carried, may allure ſome men to ſow corn inceſſantly, and thereby to ſpend their *Marle*, and to choke their arable in the end; yet I doubt not but the wiſer ſort can ſee that it is much better to maintain their grounds hearty and in good plight for ever, then to raiſe a ſhort gain, that will bring a long and perpetuall loſs upon them: the rather alſo, becauſe that butter,

Cheeſe, and the fleſh of beef and mutton be advanced in price equally, if not beyond Wheat, Rye, barley, and the other grains. Howbeit a good Husbandman wil make his profit of them both: for if he have one hundred, or one hundred and twenty acres of this Wealdiſh arable, he will ſo Marle and manure them, that dividing his land into five or ſix equall parts, he may continually plough twenty, or five and twenty acres for corn, and yet lay to Paſture the reſt by turnes, ſo that by the help of his *Marle* his land ſhall be continually rich and profitable, both in the one and other of them. And thus I have ſpoken of the Weald, deſcribing the nature and property thereof: ſo may every man of diſcretion and judgement, which ſhall meet with earth of the ſame quality and condition (in what part of this Kingdome ſoever) make application of theſe Rules before rehearſed, and no doubt but the profit will make both the labour and coſt profitable and pleaſant.

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The ſeverall waies, according to the opinions of Writers, and the certaine waies, according to the experience of Husbandmen, for the deſtruction of Moles, *or* Moales *which digge and root up the earth, and how to reduce and bring the ground to the firſt goodneſſe, having been ſpoyled by them.*

IT is needleſs either to deſcribe the nature and quality of this Vermine, or the injury and hurt which they doe to the Husbandman, Gardiner, and Planter, ſince no Country is exempt from their annoyance; but touching the remedies, they are of greater ſecrefie, and therefore I thought good in this place to inſert them.

The antient writers are of divers opinions touching the manner of deſtroying this creature, and therefore have left unto us ſundry Medicines how to work the ſame: amongſt the which, one writeth as an approved experiment, that if you take Walnut ſhels, and fill them with brimſtone, chaff, and Petroſin and then ſetting them on fire, put them into holes or trenches, through which the Moal paſſeth, the very ſmel or ſtink therof wil poyſon them; ſo that if you dig, you ſhall find them dead in their holes.

Another affirmeth, that if you take brimſtone, and dank ſtinking litter of horſes, and burn it in the holes or haunts of the Moals, it alſo will impoyſon them, ſo as you ſhall find they will come out of their Caves, and lye dead upon the green graſs

A third affirms, That if you take green Leeks, Garlick, or Onions, and chopping them groſſely, thruſt it into the holes, the very fume or ſavour thereof will ſo aſtoniſh and amaze the Moales, that they will preſently forſake the earth and falling into a trance, you may take them up with your hands. Now there is not any of theſe medicines which can

be dif-allowed; for there is no doubt but that they will work the effects ſpoken of, if the Moale can be brought to take a full ſent thereof: but it is a Vermine curious of ſent, and paſſing quick of hearing, and being in a ſpacious ground, will prevent theſe baits: and therefore they are rather to be applyed for gardens or little grounds, where there is but a Moal or two, then in large fields, where there be many hundreds.

To conclude for this matter of medicines, or for the helping of gardens, hop-yards, or any ſmall ſpot of ground, there is not any thing held more available, than to ſow in that place the herb called *Palma Chriſti*; for it is found by certaine experience, that whereſoever that herb groweth naturally of it ſelf, or otherwiſe is either purpoſely ſown or planted, there in no wiſe will any Moal abide.

Thus much I thought good to ſhew you for the uſe of medicine, and for clearing of ſmall grounds: now for the annoyances which happen to great, large, and ſpacious fields, through the multitude of Moals, there is only three abſolute wayes for the curing of the ſame.

The firſt is, in the moneths of *March* and *April*, to view where they caſt, and go about to make an extraordinary great hill, in which they build them neſts, which is known by the newneſs of the Mould; then look for the new trench which leadeth to the ſame, for as ſhe goeth ſhe returneth: then with your Moal-ſpade open the trench in divers places, and then very ſtill & ſilently, and obſerving to take the wind, to prevent both hearing and ſmelling, watch the Moal as ſhe goeth or returneth, which is, Morning, Noon, and Evening, and as ſoon as you ſee her caſt, ſtrike her with your Moale-ſpeare, made of many ſharp pikes, and ſo caſt her up, and kill her. Thus have I ſeen by one man an hundred deſtroyed in one day.

The next infallible way for the deſtruction of Moales is, If you can by any poſſible means bring in water to over-flow and waſh your ground, and as ſoon as the earth is wet over, the Moales will come forth of themſelves, and you may gather

ther them up with your hands at pleasure.

The last (indeed as much approved as any) is to take a live Moal in the month of *March*, which is their bucking or ingendring time, and put it into a deep brass Bason, or other deep smooth Vessell, out of which the Moal cannot creep, and then at evening bury it in the earth up to the brimmes, and so leave it, and the imprisoned Moal will presently begin to strike, complain, or call, so that all the Moales in the ground will come to it, and tumbling into the Vessell, they are prisoners also, and the more prisoners, the greater will be the noise: and the more noise, the more Moales will come to the rescue; so that I have seen 50. or 60. taken in one night, and in one Vessell, or brass Kettle.

Now having thus learned how to destroy the Moales, it is meet you also know how to prevent the comming in of forraign Moales; because though you keep your ground never so clean, yet if your next neighbour be an ill husband, his field may soon impoyson yours again: therefore to prevent the comming in of any forreigne Moal, make but little Furrows or Trenches about your ground, and scatter in them small round balls made of Hempseed, or Hemp seed and *Palma Christi* beaten together, and you shall not need to fear the comming in of any neighbour Moals, how many soever there be about you.

Lastly, for the reducing or bringing the ground to the first perfection again (for howsoever some Husbandmen say, Moe Moal-hills, moe ground; yet 'tis certain, that moe Moale-hills, less good ground) for never was yet sweet grasse seen on a Moale-hill; therefore to bring it to perfection, which I mean to be meadow ground, or ground to be mowne, which Moale-hills cannot be you shall first, with a sharp paring-shovell, pare off the swarth about three fingers deep, for fear of hurting the roots of the grass: and then the swarth taken off, digge away the rest of the Mould, and scatter it as small as you can round about the hill, then take the green swarth, and cutting it artificially, lay it close and fast, and levell, where you took away the Mould, as if there had never been Hill there: and thus do to all your hills, though they be never so

ſo innumerable: and after all your ground is levelled, as ſoon as the firſt ſhoure falleth, run all your ground over with a pair of back Harrowes, or an Harrow made of a Thorn-buſh, and it will break the mould as ſmall as aſhes, which will ſo comfort and refreſh the root of the graſs, that it will grow in infinite abundance; and ſourenes which was cauſed by reaſon of the Hills, will come again to a perfect ſweetneſs, and the meadow will be more fruitfull then before by many degrees. And thus much for the deſtruction of Moales, and the reducing of the earth to his firſt goodneſs.

FINIS.